**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In Re Application of

NEVERMANN, et al.

Group Art Unit: 1617

Application No. 09/831,216  
US national app. of PCT/EP99/07151

Examiner: San Ming R. Hui

Filed: April 27, 2001

For: AGENT FOR REPELLING AND INACTIVATING PATHOGENIC  
ORGANISMS OF PLANTS

\* \* \* \* \*

DECLARATION UNDER 37 CFR 1.132

Hon. Commissioner of Patents  
And Trademarks  
P.O. Box 1450  
Alexandria, VA 22313

Sir:

I, Dr. Jutta Höffler, a citizen of Germany, declare as follows:

1. I am employed by Technische Mikrobiologie, located at Ahrensburger Straße 162, 22046 Hamburg, Germany, where I am a General Manager.
2. At the request of the applicant of the above-referenced U.S. patent application, I conducted tests to compare the disinfecting agent identified in claim 11 of the above-referenced patent application (identified as "Menno-Florades" below), with formulations of the prior art, namely:
  - Example 6 of U.S. patent 4,414,128 (at column 10),
  - Example 5d of International publication WO 96/11572,
  - Example 6e of International publication WO 96/11572,
  - Example 8 of International publication WO 96/11572, and
  - Example 10b of International publication WO 96/11572.

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3. The Menno-Florades formulation contains as active agent a synergistic mixture of organic acids, anionic surfactants, glycol, monovalent alcohols and hydrotropic agents according to claim 11 in U.S. patent application 09/831,216. As the organic acid component, benzoic acid (9% by weight) was used. As the anionic surfactant, the sodium salt of an alkyl  $C_{12} - C_{14}$  sulfonate was used. As hydrotropic agent, cumene sulfonate as sodium or potassium salt (between 5 and 40% by weight relative to the weight of the disinfecting agent) was used. As glycols there was used ethylene glycol (between 10 to 40% by weight). As monovalent alcohols there was used a mixture of propanol-1 and propanol-2 in amounts between 6 and 60% by weight relative to the weight of the disinfecting agent.
4. As for the formulations of the prior art, Example 6 of U.S. patent 4,414,128 (at column 10), Example 5d of International publication WO 96/11572, Example 6e of International publication WO 96/11572, Example 8 of International publication WO 96/11572, and Example 10b of International publication WO 96/11572, the exact compositions are listed below in Exhibits A and B.
5. The experiments were done according to the Richtlinie für die Prüfung von Pflanzenschutzmitteln zur Desinfektion im Zierpflanzenbau, herausgegeben von der Biologischen Bundesanstalt für Land- und Forstwirtschaft (BBA) (that is, guidelines for the examination and testing of disinfectants for plant cultivation, of the Federal Biological Institute for agriculture and forestry (BBA in Germany)). This is the BBA guidelines for the official testing of plant disinfectants, 16-4, April 1986.
6. The identified prior art formulations and Menno-Florades were each tested with fusarium oxysporum (test germ of the BBA guideline, page 2), in a germ carrier test, where the carrier was made of nylon, and in the presence of 1% peat.

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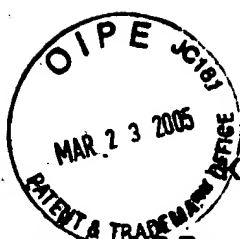
7. As control there was used sterilized water and water containing an inactivation agent. As inactivation agent there was used a composition containing: 3% tween 80, 3.0% saponin, 0.3% lecithin, 0.1% histidin, 0.1 mol/L  $\text{Na}_2\text{HPO}_4$ .
8. The examination report in German is appended as Exhibit C. An English translation of the examination report, with verification of translation, is appended as Exhibit D. Exhibit B also represents a summary of the results of the examination report.
9. As shown in the examination report and in the table of Exhibit B (under the columns labeled "Re-isolate of fusarium oxysporum after a residence time of"), for all of the prior art formulations tested, there was absolutely no appreciable effect demonstrated against the parasite fusarium oxysporum. For example, in the table of Exhibit B, "3/3" indicates that from three parallel experiments, all three culture media or agar media were overgrown in spite of the use of disinfectants in total with parasites. "1/3" indicates that one of three culture media show the growth of germs—however, two culture media were without parasites.
10. All statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true; and these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 or Title 18 of the United States and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Dr. Jutta Höffler:

Title: Dr. rer. nat (General Manager)

Date:

18.03.2005



Aufgrund der Einlassungen des US Patentprüfers - San Ming R. Hui - ist es notwendig, das erfindungsgemäße Produkt - **FLORADES** ( US national app. of PCT/EP9907151) - im direkten Vergleich zu den entgegengehaltenen Formulierungen aus benannten Patentschriften hinsichtlich der Wirksamkeit gegenüber Pflanzenschädlingen zu testen.

Nach Absprache mit Herrn Dr. Becker (Becker · Kurig · Straus, Patentanwälte) wurden folgende Formulierungen für die Erwiderung an den US - Prüfer als relevant bewertet:

Aus der US - Patentschrift 4,414,128, Spalte 10, Beispiel 6: [geänderte Version]

<u>Bezeichnung</u>	<u>Gewichtsmenge [w/w]</u>
Mersolat W 40 (40%ig)	10,00
(LAS C <sub>11</sub> -C <sub>18</sub> )	4,00)
Nitrilotriessigsäure Na-Salz	6,00
Dobanol 91-8 [8EO, Shell]	2,00
β - Pinen	3,00
Benzylalkohol (Phenylcarbinol)	1,50
Cumolsulfonat-Na	2,00
Wasser reinst	75,50
	<hr/> 100,00

aus der WO 96/11572, S.19-21, Beispiele 5d, 6e, 8, 10b:

#### Beispiel 5d:

Zitronensäure (reinst)	3,00
Hexylenglykol	10,00
Glyzerin	10,00
Öl in Wasser Emulsion	
oder Wasser reinst	77,00
	<hr/> 100,00

#### Beispiel 6e:

Essigsäure	10,00
Propylenglykol	30,00
Polyethylenglykol	60,00
	<hr/> 100,00

**Beispiel 8:**

Milchsäure	10,00
Propylenglykol	40,00
Hexylenglykol	30,00
Glyzerin	10,00
Wasser reinst	10,00
	<hr/>
	100,00

**Beispiel 10b:**

Milchsäure	10,00
Propylenglykol	40,00
Hexylenglykol	30,00
Wasser reinst	20,00
	<hr/>
	100,00

19.02.2005

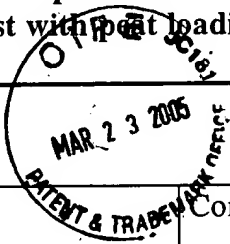
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**Verteiler:**

MENNO Chemie, Herrn Jan Nevermann  
Technische Mikrobiologie Frau Dr. J. Höffler  
Patentanwalt Dr. Becker, Az. 51919 (BE/BS) ✓

**Bitte entfernen Sie die Notiz vom 31.01.2005 aus Ihren Akten!**

Effects of MENNO-Florades (see above) and different formulations of patent specifications compared with fusarium oxysporum (testgerm of the BBA-guideline, p. 2) in a carrier test with patent loading (BBA-guideline)



		Re-isolate of fusarium oxysporum after a residence time of	
Disinfectant (concentration)	Concentration %	1 hour	4 hours
Tap water + Neutralization agent		3/3	3/3
Tap water		3/3	3/3
Example 6 US-Patent 4,414,128, col. 10	1.0%	3/3	2/3
	2.0%	3/3	2/3
Example 5d, WO 96/11572	1.0%	3/3	3/3
	2.0%	3/3	3/3
Example 6e WO 96/11572	1.0%	3/3	3/3
	2.0%	3/3	3/3
Example 8 WO 96/11572	1.0%	3/3	3/3
	2.0%	3/3	3/3
Example 10b WO 96/11572	1.0%	3/3	3/3
	2.0%	3/3	3/3
Menno-Florades *according to the present invention	1.0%	1/3	0/3
	2.0%	0/3	0/3

Legend: 0/3 = none of 3 carriers was overgrown  
 1/3 = 1 of 3 carriers was overgrown  
 2/3 = 2 of 3 carriers were overgrown  
 3/3 = 3 of 3 carriers were overgrown

\*the active agent of Menno-Florades was a synergistic mixture of organic acids, anionic surfactants, glycols, monovalent alcohols and an hydrotropic agent. As acidic component benzoic acid (9% by weight) was used. The sodium salt of an alkyl (C<sub>12</sub>-C<sub>14</sub>) sulfonate was used as surfactant. Cumene sulfonate as sodium or potassium salt (between 5 and 40 % by weight relative to the weight of the disinfecting agent) was used as hydrotropic agent. As glycols there was used ethylene glycol (between 10 to 40 % by weight). As monovalent alcohols there was used a mixture of propanol-1 and propanol-2 in amounts of between 5 and 60% by weight relative to the weight of the disinfecting agent.



Exhibit C

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E-Mail [tecmlc@t-online.de](mailto:tecmlc@t-online.de)  
[www.tecmlc.de](http://www.tecmlc.de)

## Prüfbericht

### Richtlinie\* für die Prüfung von Pflanzenschutzmitteln zur Desinfektion im Zierpflanzenbau 16-4

#### Auftraggeber

MENNO CHEMIE-VERTRIEB GmbH  
Langer Kamp 104  
22850 Hamburg

#### Desinfektionsmittelpuben

Produkt ..... **MENNO-Florades**  
(US nat.app. of PCT/EP9907151)  
Chargennummer ..... 0004 v. 07.09.2000  
Hersteller ..... MENNO CHEMIE-VERTRIEB  
Lieferdatum ..... 12.10.2000  
Produkt-Formulierung/(US Pat.4,414,128) ..... **6**  
Produkt-Formulierungen/(WO 96/11572) ..... **5d, 6e, 8, 10b**  
Herstellungsdatum ..... 19.02.2005  
Lieferant ..... MENNO CHEMIE-VERTRIEB  
Lieferdatum ..... 25.02.2005  
  
Lagerbedingungen ..... Raumtemperatur  
Aussehen der Produkte: ..... flüssig, farblos  
Wirksubstanz(en) ..... organische Säuren,  
Glykole  
  
Vom Hersteller empfohlene Gebrauchskonzentration ..... 1,0% - 2,0%



## Prüfverfahren und seine Validierung

Methode.....	Bestimmung der fungiziden Wirkung im Keimträgerversuch, Tauchbehandlung (1.3.2 Laborprüfungen)
Keimträger.....	1 cm <sup>2</sup> große Stücke Nylogewebe (Maschenweite = 0,5 mm)
Neutralisationsmedium.....	Polysorbat 80 (30g/l), Saponin (30g/l) Histidin (1g/l), Lecithin (3g/l)
Wachstumsmedium .....	Potato Dextrose Agar (Oxoid)
Bebrütungstemperatur .....	25°C ± 1°C
Zeitspanne der Prüfung .....	2005-02-18 bis 2005-03-04

## Experimentelle Bedingungen

Produktverdünnungsmittel, das bei der Prüfung benutzt wird.....	steriles Leitungswasser (11° dH))
Produktprüfkonzentration.....	1,0%; 2,0% (V/V)
Aussehen der Produkte und ihrer Verdünnungen.....	klare Lösungen

## Obligatorische Bedingungen:

Testorganismus: .....	Fusarium oxysporum (Cyclamen, Jungpflanzen)
Einwirkzeit .....	60 min, 240 min
Prüftemperatur.....	20°C ± 1°C
Belastungssubstanz.....	0,1 g lufttrockener Weißtorf (Korngrösse < 2 mm)

## Prüfergebnisse

s. nachfolgende Tabelle





### Schlußfolgerung

Für das Produkt **MENNO-Florades** wurde für die generelle Anwendung bei 20°C und 1 und 4 Stunden Kontaktzeit gemäß Richtlinie 16-4, Richtlinie für die Prüfung von Pflanzenschutzmitteln zur Desinfektion im Zierpflanzenbau (obligatorische Bedingungen) eine fungizide Konzentration gegenüber *Fusarium oxysporum* von

1,0% nach 4 Stunden Kontaktzeit und  
2,0% nach 1 Stunde Kontaktzeit bestimmt.

**Die Produkte** Beispiel 6 (US-Patentschrift 4,414,1218, Spalte 10) und Beispiele 6e, 5d; 8, 10b (WO 96/11572) besitzen unter obligatorischen Bedingungen (s.o.) keine ausreichende Wirkung.

**Technische Mikrobiologie**

**Dr. Jutta Höffler GmbH**

*Marion Korsch*

Marion Korsch

(Versuchsdurchführung)

Hamburg, 2005-03-08

*Christine Zimmermann*

Christine Zimmermann

(Dipl. Biologin)

**Wirksamkeit von MENNO-Florades (s.o.) und verschiedenen Formulierungen aus Patentschriften gegenüber *Fusarium oxysporum* (Prüfkeim der BBA- Richtlinie, S.2) im Keimträgerversuch mit Torfbelastung (BBA-Richtlinie)**

		Re-Isolate von <i>Fusarium oxysporum</i> nach einer Einwirkungszeit von	
Desinfektionsmittel (Konz.)	Konz. %	1 Stunde	4 Stunden
Leitungswasser +Neutralisierungsmittel		3/3	3/3
Leitungswasser		3/3	3/3
Beispiel 6, US-Patentschrift 4,414,12/8, Spalte 10,	1,0%	3/3	2/3
	2,0%	3/3	2/3
Beispiel 5d, WO 96/11572	1,0%	3/3	3/3
	2,0%	3/3	3/3
Beispiel 6e, WO 96/11572	1,0%	3/3	3/3
	2,0%	3/3	3/3
Beispiel 8, WO 96/11572	1,0%	3/3	3/3
	2,0%	3/3	3/3
Beispiel 10b, WO 96/11572	1,0%	3/3	3/3
	2,0%	3/3	3/3
MENNO-Florades	1,0%	1/3	0/3
	2,0%	0/3	0/3

Legende: 0/3 = keiner von 3 Keimträgern bewachsen

1/3 = 1 von 3 Keimträgern bewachsen

2/3 = 2 von 3 Keimträgern bewachsen

3/3 = 3 von 3 Keimträgern bewachsen

16  
Bacteriology, Mycology, Virology, Consultants

*Exhibit D*  
*Sign of the company*

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**Test Report**  
**Guideline\* for the Testing of Plant Protectants**  
**for Disinfection in Ornamental Plant Cultivation**  
**16-4**

**Orderer**

MENNO CHEMIE-VERTRIEB GmbH  
Langer Kamp 104  
22850 Hamburg

**Disinfectant samples**

Product.....MENNO-Florades  
(US pat.app. of PCT/EP9907151)  
Lot no.....0004 of 09/07/2000  
Manufacturer.....MENNO CHEMIE-VERTRIEB  
Date of delivery 10/12/2000  
Product formula/(US Pat.4,414,128).....6  
Product formulas/(WO 96/11572).....5d, 6e, 8, 10b  
Date of production.....02/19/2005  
Supplier.....MENNO CHEMIE-VERTRIEB  
Date of delivery 02/25/2005  
  
Storage conditions.....ambient temperature  
Appearance of the products: fluid, colorless  
Active ingredient(s) .....organic acids, glycols

Concentration of use recommended by the manufacturer 1.0% - 2.0%

\*issued by the Federal Biological Research Center for Agriculture and Forestry  
(Biologische Bundesanstalt für Land- und Forstwirtschaft, BBA)

Neutralization medium.....Polysorbate 80 (30g/L), Saponin (30/L)  
Histidine (1g/L), Lecithin (3g/L)  
Growth medium.....Potato Dextrose Agar (Oxoid)  
Incubation temperature.....25°C ± 1°C  
Test period .....2005-02-18 until 2005-03-04

**Experimental conditions**

Product diluent  
in use at the test .....sterile tap water (196 mg/L CaCO<sub>3</sub>)  
Test concentration of the product .....1.0%; 2.0% (v/v)  
Appearance of product and dilutions .....clear solutions

**Obligatory conditions:**

Test organism: .....Fusarium oxysporum  
(cyclamen, young plants)  
Active time .....60 min, 240 min  
Test temperature .....20°C ± 1°C  
Load substance .....0.1 g air-dry white peat  
(particle size < 2 mm)

**Test results**

see the following table

## **Conclusion**

For the product **MENNO-Florades**, a fungicidal concentration towards *Fusarium oxysporum* of

1.0% after 4 hours of contact and

2.0% after 1 hour of contact

was determined for general use at 20°C and 1 and 4 hours of contact time in accordance with guideline 16-4 for the testing of plant protectants for disinfection in ornamental plant cultivation (obligatory conditions).

The products example 6 (US patent specification 4,414,1218, row 10) and examples 6e, 5d; 8, 10b (WO 96/11572) do not have a sufficient effect under obligatory conditions (see above).

**Technical Microbiology**  
**Dr. Jutta Höfler GmbH**

Hamburg, 2005-03-08

Marion Korsch  
(Execution of the test)

Christine Zimmermann  
(qualified biologist)

Hereby I certify the correctness and completeness of this translation of a test report from the German into the English language.

Schwarzenbek, March 14<sup>th</sup>, 2005



Dr. A. Lutz

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